

Plantae Chinenses Forrestianae.

Plants discovered and collected by George Forrest during his first exploration of Yunnan and Eastern Tibet in the years 1904, 1905, 1906.

Description of New Species of Celastraceae.

BY

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With Plates I-II.

Euonymus roseoperulata, Loes. Sp. nov. dubia.

Frutex glaberrimus, 2-4-metralis; ramulis i.s. \pm striato-sulcatis, vetustioribus cortice obscure brunneo-griseo sub lente longitudinaliter rimuloso ceterum laevi et nitidulo obtectis, hornotinis vix 1 mm. crassis; perulis inferioribus brevioribus subsemiorbicularibus margine scariosis apiceque saepius incisulis, superioribus longioribus spathulatis apice acutiusculis, usque 13 mm. longis et paene 5 mm. latis, integris omnibus i.s. pallide roseis; foliis oppositis, persistentibus, etsi chartaceis vel tantum tenuiter chartaceis submembranaceis, tenuiter et 4-8 mm. longe petiolatis, ellipticis vel lanceolato-ellipticis, basi cuneatis vel cuneato-obtusis, apice obtusiuscule vel acutiuscule acuminatis vel rarius subacutis, margine dense serrulatis, 4.5-7.5 cm. longis, 1.3-2.3 cm. latis, i.s. griseo-olivaceis, subtus vix pallidioribus, costa et nervis lateralibus supra i.s. prominulis, subtus costa prominula, nervis obsoletis, reticulo supra tenuiter prominulo, subtus plane evanido; inflorescentiis juvenilibus singulatim lateralibus vel in foliorum axillis solitariis, gracilibus, bis vel ter dichotome furcatis, bracteis sublinearibus, acutis, usque paene 3 mm. longis, i.s. \pm roseis, axibus intermediis evolutis; florum tantum alabastris valde juvenilibus visis, 4-meris.

"Shrub of 6-12 ft. Flowers green. Thickets in side valleys on the eastern flank of the Tali Range. Lat. 25° 40' N. Alt. 8000-9000 ft. May-June 1906." G. Forrest. No. 4756.

Species inter sempervirentes perulis manifestis roseis insignis
[Notes, R.B.G., Edin., No. XXXVI, March 1913.]

proxima videtur *E. vaganti*, Wall., speciei himalaicae, quae praeter perulas multo minores et prius deciduas foliis manifeste latioribus recedit.

***Euonymus cornutoides*, Loes. Sp. nov.**

Frutex glaber 2-4-metralis; ramulis patentibus vel erectis, gracilibus, hornotinis 0.5-1.5 mm. crassis, i.s. longitudinaliter paucistriatis; foliis oppositis, breviter (2-3 mm. longe) petiolatis, membranaceis vel tenuiter chartaceis, persistentibus (certe paucis postremis), anguste lanceolatis vel angustissime lanceolato-ellipticis, basi acutis vel raro subobtusis, apice sensim angustatis et in acumen acutum circ. 2 cm. longum vix conspicue a laminae parte reliqua distinctum productis, margine levissime subcrenulato-serrulatis, 4.5-10 cm. longis, 0.6-1.5 cm. latis, i.s. olivaceo-vidridibus vel scilicet persistentibus \pm cinerascentibus, subtus pallidioribus, costa media supra conspicua vel in vetustioribus prominula, subtus prominula vel prominente, nervis lateralibus brevibus, conspicuis vel obsoletis, in fol. vetustioribus subtus prominulis, reticulo obsoleto; inflorescentiis singulatim lateralibus, gracilibus, semel vel plerumque bis dichotome furcatis, 3-7-floris et plerumque praeterea axibus accessoriis utrinque singulis unifloris auctis ideoque circ. 9-floris, rarissime tantum unifloris, pedunculis tenuibus, 2-4.5 cm. longis, axibus intermediis evolutis, 0.5-1 cm. longis, pedicellis 0.5-1 cm. longis, bracteis et prophyllis lapsis; floribus mediocribus, 4-meris, expansis 5-7 mm. diam.; calycis lobis rotundatis subsemiorbicularibus, vix 1 mm. longis et paene 2 mm. latis; petalis i.v. viridulis, ovato-subrhombeis, apice obtusis, sub lente valida in facie superiore dense papillois, circ. 4 mm. longis et 3 mm. latis; staminibus supra discum carnosum 4-lobum in eius lobis insertis, filamentis brevissimis gibberiformibus, antheris subsessilibus rima transversali superne dehiscentibus, mox delapsis; ovario depresso-pyramidato, 4-angulato, stigmate capitato sessili coronato, 4-loculari, loculis 2-ovulatis, ovulis ex angulo ventrali pendulis collateralibus.

"Shrub of 6-10 ft. Flowers livid green. Shady situations in mixed forests on the eastern flank of the Lichiang Range. Lat. 27° 25' N. Alt. 10,000-11,000 ft. October 1906." G. Forrest. No. 3094.

Proxima *E. cornutae*, Hemsl., quae inflorescentiis 1-3-floris, raro usque 7-floris, axibus secundariis accessoriis nullis, floribus manifeste maioribus differt.

***Euonymus porphyrea*, Loes. Sp. nov. Plate i.**

Frutex glaber; ramulis patentibus alteris elongatis, laevibus, longitudinaliter sulcatis, alteris abbreviatis et foliorum lapsorum

cicatricibus exasperatis, hornotinis 1-2 mm. crassis; foliis oppositis, 3-7 mm. longe petiolatis, deciduis, membranaceis, ovatis usque oblongis, basi cuneato-obtusis vel obtusis, raro subrotundatis vel cuneatis, apice manifeste et acute acuminatis, acumine usque 18 mm. longo, margine dense ciliato-serrulatis, 3.5-7.8 cm. longis, 1.2-2.6 cm. latis, i.s. olivaceo-viridibus, subtus paullo pallidioribus, costa media i.s. supra vix prominula, subtus prominula, nervis lateralibus tantum conspicuis, supra obsoletioribus vel plane obsoletis; inflorescentiis singulatim lateralibus vel in foliorum axillis solitariis, gracilibus, laxis longissimeque pedunculatis, semel vel bis dichotome furcatis, 2-7-floris, vel saepe axibus accessoriis utrinque singulis unifloris auctis usque 9-floris, pedunculis usque 5.5 cm. longis, axibus intermediis manifestis usque 2.3 cm. longis, pedicellis usque 1.3 cm. longis, bracteis et prophyllis filiformibus, mox deciduis; floribus mediocribus, 4-meris, explanatis 7-8 mm. diam.; calycis explanati lobis rotundatis ovatis vel subsemiorbicularibus, circ. 1 mm. longis; petalis ovato-oblongis ad apicem versus angustatis obtusiusculis vel subacutis, in vivo atropurpureis, circ. 4.5 mm. longis, 2-2.25 mm. latis; staminibus supra discum explanatum crassiuscule carnosum, 4-lobum in eius lobis insertis, filamentis brevissimis gibberiformibus, antheris subsessilibus, rima transversali superne dehiscentibus; ovario depresso-pyramidato et obsolete 4-gono, stigmate capitato sessili coronato, 4-loculari, loculis 2-ovulatis, ovulis collateralibus ex angulo centrali pendulis.

"Shrub of 10-15 ft. Flowers deep black-crimson. Open, rocky situations in side valleys on the eastern flank of the Lichiang Range. Lat. 27° 12' N. Alt. 10,000 ft. May 1906." G. Forrest. No. 2240.

Species valde affinis *E. sanguineae*, Loes., quae differt foliis plerumque latioribus et brevius acuminatis, petalis pallidis, obtusioribus, rotundioribus.

Ad eandem hanc speciem mihi pertinere videntur specimina Wilsoniana n. 967, 967a, 3108, 3109, 3110, 3328.

***Euonymus taliensis*, Loes. Sp. vel var. nov.**

Frutex glaber; ramulis patentibus, alteris elongatis, alteris abbreviatis, hornotinis 1-1.5 mm. crassis; foliis oppositis 4-6 mm. longe petiolatis, deciduis, membranaceis, oblongo-ellipticis vel ellipticis vel oblongis vel lanceolatis, basi obtusis vel cuneato-obtusis, apice sensim acuminatis vel subacutis, margine crenulato-serrulatis, 4.5-8 cm. longis, 1.4-2.5 cm. latis, i.s. olivaceis, subtus paullulo pallidioribus, costa et nervis lateralibus supra vix prominulis, conspicuis, subtus costa prominula, nervis tantum con-

spicuis vel etiam \pm impressis, reticulo obsoleto; inflorescentiis singulatim lateralibus gracilibus, semel vel bis, rarius ter, dichotomis, axibus filiformibus, intermediis manifestis, pedunculis 2-4 cm. longis, pedicellis 1-1.4 cm. longis; floribus inter minores, 4-meris, expansis 4-6 mm. diam., calycis explanati lobis rotundatis, latoribus quam longioribus, circ. 0.5 mm. longis; petalis suborbicularibus circ. 2.5 mm. diam.; staminibus supra discum explanatum subtenuem obsoleteque 4-lobum in eius lobis insertis, filamentis brevissimis gibberiformibus, antheris subsessilibus, subreniformibus, rimis transversalibus superne et extrorsum dehiscentibus; ovario depresso-pyramidato, 4-gono, stigmate capitato sessili coronato, 4-loculari, loculis 2-ovulatis, ovulis ex apice et angulo centrali collateralibus et oblique pendulis.

"Shrub of 4-8 ft. Open, rocky situations amongst scrub on the eastern flank of the Tali Range. Lat. $25^{\circ} 40'$ N. Alt. 8000-9000 ft. June-July 1906." G. Forrest. No. 4798 partly.

Proxima *E. Giraldui*, Loes., quae foliis densius serrulatis, plerumque \pm ciliato-serrulatis et latoribus recedit, atque forsantantum varietas huius speciei.

This species was confused by Franchet with 4798a, both considered by him to be his *E. amygdalifolia*. It differs from the plant 4798a, to which we restrict Franchet's name, by the flowering branchlets being shorter, the flowers considerably smaller and of a paler colour.

Tripterygium Forrestii, Loes. Sp. nov. Plate ii.

Frutex 0.6-1.5 m. altus; ramulis acute angulatis et lenticelloso-verrucosis; foliis alternis 4.5-7 mm. longe petiolatis, ovalibus vel ovatis, basi cuneato-obtusis vel rotundatis, apice obtuse vel acutiuscule breviter vel usque 12 mm. longe acuminatis, margine crenulato-serrulatis, chartaceis vel tenuiter chartaceis, petiolo sub lente parce puberulo glabrescente excepto glabris vel glaberrimis, 5-8.5 cm. longis, 2.5-5.2 cm. latis, costa et nervis lateralibus \pm patentibus et ad apicem versus arcuatis supra prominulis, subtus prominentibus, manifeste et dense reticulatis, reticulo supra tenuiter prominulo, subtus subprominente, inflorescentiis paniculam compositam terminalem usque 13 cm. longam formantibus, rhachi et axibus reliquis dense subfusco-vel griseo-puberulis; floribus parvulis, sub anthesi 4-5 mm. diam., gynaeceo 3-mero excepto 5-meris; calyce sub lente parce pulvereo-puberulo, lobis rotundatis sub lente \pm repandulis, vix 1 mm. longis, circ. 1.25 mm. latis; petalis e basi paullum angustata subovatis, margine sub lente vix conspicue repandulis subintegris, circ. 2 mm. longis et 1.75 mm. latis; staminibus in

disci crassiuscule carnosi, explanati, obsolete 5-lobi margine inter lobos insertis, quam petala brevioribus, filamentis subulatis, antheris late cordiformibus versatilibus, thecis extrinsecus granulatis; ovario subtetraedrico manifeste 3-costato, 3-loculari, loculis 2-ovulatis, ovulis erectis, stylo sub anthesi ovario vix longiore, apice paullulum incrassato, stigmatibus 3 non vel vix 2-lobulatis; fructibus immaturis 3-alatis.

"Shrub of 2-4 ft. Flowers greenish brown. Open, scrubby situations on the eastern flank of the Tali Range. Lat. $25^{\circ} 40' N$. Alt. 9000-10,000 ft. August 1906." G. Forrest. No. 4290.

Genus usque adhuc ex Forb. et Hemsl. Ind. Flor. Sin. I. 125 monotypicum in species complures dividendum mihi nunc videtur. Species haec nova a *T. Wilfordii*, Hook. f. ex specimine Formosano descripto "glaberrimo" praecipue indumento inflorescentiae recedit. Reliquae species partim foliorum nervatura, partim florum magnitudine vel inflorescentiae indumento, partim stigmatum numero inter sese diversae sunt.

LIST OF PLATES

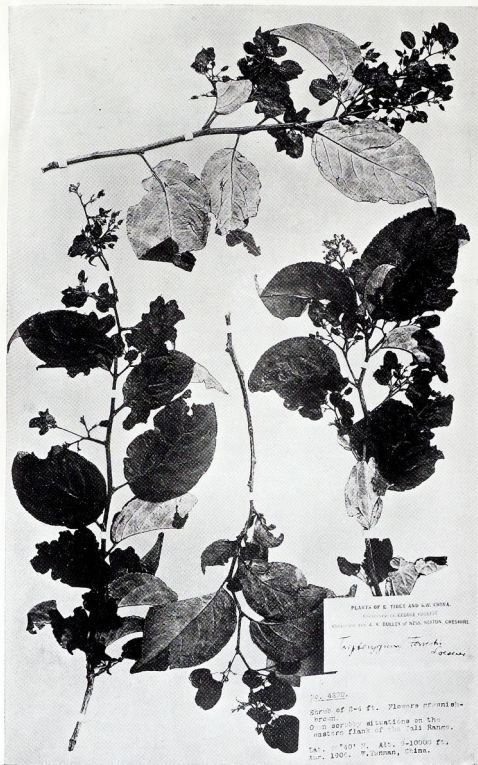
Illustrating Professor Loesener's Paper on Celastraceae collected by George Forrest in Yunnan.

The plates are taken from photographs by Mr. R. Adam of dried specimens in the Herbarium of the Royal Botanic Garden, Edinburgh.

- PLATE I. *Euonymus porphyrea*, Loes. Sp. nov.
II. *Tripterygium Forrestii*, Loes. Sp. nov.



EUONYMUS PORPHYREA, LOESENER.



TRIPTERYGIUM FORRESTII, LOESENER.